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### Corn, Free Trade and the Mexican Quest for Food Security

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**Corn, Free Trade and the Mexican Quest for Food Security**

by  
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# Corn, Free Trade and the Mexican Quest for Food Security

JAZMINE OGLE

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## Abstract

My research will examine the origins of the current corn crisis in Mexico. The rise in corn prices are not the result of shortages in production, but the outcome of increased demand stemming from the production of biofuels. I hypothesize that in an age of trade deregulation and food riots, food security remains a possibility for Mexico. I propose that by examining international conditions, free trade policies and the civic response to the 2007 Mexican neoliberal<sup>1</sup> tortilla crisis, we can understand not only the current corn crisis but also the larger crises of food entitlement currently afflicting the developing world. The goal of this study is to contribute to the evaluation of the impact of trade liberalization on corn production and Mexican food security.

## Introduction

“When you talk about Mexico, when you talk about culture and societal roots, when you talk about the economy, you talk about the tortilla. Everything revolves around the tortilla”<sup>2</sup>

Corn is a critically important agricultural product for Mexico. Corn is the backbone to a rich cultural heritage and a staple to Mexican communities. Corn is also the most essential crop in Mexico in terms of cultivated land, volume of production, production value, and number of producers. (de Ita, 2007). Corn has a ten-thousand year history and today corn continues to be the “anchor that enables indigenous communities to preserve their way of life.” (Carlsen, 2004, p. 1).

The Mexican government has maintained more trade agreements than any other country in the world, including the world’s largest trade agreement: the North American Free Trade Agreement (NAFTA) (Targowski, 2003). NAFTA is a trade bloc (a free trade area formed by one or more tax, tariff and trade agreements) composed of three countries: Canada, the United States, and Mexico. NAFTA is a unique trade agreement as it is the first of its kind to treat two developed countries, Canada and the US, and the comparably under developed country of Mexico, as equals. Mexico’s

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<sup>1</sup> Neoliberalism is broadly referred to as a set of economic policies championed by Western governments over the last 25 years. Commonly neoliberal policies include the abolition of government intervention in economics and the creation of free trade markets.

<sup>2</sup> Barry, Tom. (1995). *Zapata’s Revenge: Free Trade and the Farm Crisis in Mexico*. Interhemispheric Resource Center. Massachusetts: South End Press.

agricultural sector is not equivalent in terms of technology, production policies, economics or government support systems (i.e. the provision of subsidies) with the US and Canada. (de Ita, 2007).

The NAFTA agreement received congressional approval in the US, Canada and Mexico in 1993 and was implemented in January 1, 1994. Under this agreement, many agricultural products were given varying schedules for gradual liberalization, the longest and most gradual of these schedules was the 15 years allotted for corn. This lengthy schedule was set with the intention that corn would have more time to adjust to open market forces (de Ita, 2007). In 2008, agricultural trade between the NAFTA member countries is scheduled to be fully liberalized, including corn (de Ita, 2007). This means that most trade between the US, Canada and Mexico will be tariff free, with the exception of certain products defined in the original negotiations (not to discussed in this study).

Biofuels have been a contributing factor in global food price increases. In April 2008, the World Bank linked the current food crisis directly to the rise in the production of biofuels. The World Bank details that the use of land for biofuels, and not for food for human consumption, has exponentially increased the global prices for staple foods, like corn. Biofuel production has increased as a response to demand from industrialized nations, like the United States for an alternative to foreign oil. (Mitchell, 2008).

As biofuel production has increased, the price of food worldwide has skyrocketed. In the last three years the Institute for Food and Development Policy (2008) reported an increase of 83% in food prices worldwide which is part of a larger increase of 140% from January 2002 to February 2008 (Peabody, 2008; Mitchell, 2008). The World Bank reports that these substantial and rapid increases in food price cannot be compared to any other situations since 1973. In 1973 food prices more than doubled within the span of a twelve month period. (Mitchell, 2008). Food First speculates that when tariffs on corn are fully liberalized under NAFTA in 2008, Mexican corn farming communities will experience further price hikes. Subsistence farmers in particular are affected by

price fluctuations because they lack the assets and capability to readily “switch production to more profitable crops for export and are taken advantage of by intermediary buyers” (Henriques and Patel, 2004, p. 1). The Americas Program maintains that in 2007 Mexico experienced a 42% to 67% increase in tortilla price which challenged community access to that corn. This period became known as the Tortilla Crisis (de Ita, 2007). Holt-Gimenez & Peabody (2008) of Food First further suggest that the international conditions leading to price inflation of tortillas included, but was not limited to; major droughts; low grain reserves; steep rises in oil prices; and the reallocation of land from food to biofuels production.

Public response to the crisis is increasing in tandem with food prices. Peabody (2008) reports that food riots are occurring throughout the world. Public protest during the Mexican Tortilla Crisis spurred a government investigation of transnational companies as major contributors to the international price increases. As global food and corn prices continue to rise, Mexico could experience a rise in food protest. What role do transnational corporations play in the current food crisis? Are neoliberal policies, in particular commodity trade liberalization, important factors in the Mexican Tortilla Crisis and the greater food availability crisis? In order to address the specific effects of neoliberal policies, market control by transnational corporations, and global biofuel demand we must first analyze the forces shaping food security in Mexico

### **Food Security**

The 1996 World Food Summit defined food security as a situation “when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food, and to meet their dietary needs and food preference for an active and healthy life” (Food and Agricultural Organization [FAO], 1996, p. 1). The Food and Agriculture Organization (FAO) identifies three underlying aspects to this definition: effective supply of food, the ability to acquire food, and the reliability of food distribution. Food supply and the ability to secure nutritious food resources by

both individuals and communities are fundamental to the achievement of food security worldwide. This concept is a guiding model to the work of economist Amartya Sen and his 'entitlement approach' to food security.

### ***Amartya Sen's Entitlement Approach***

The current global food crisis, and specifically the Mexican Tortilla Crisis, are issues of food security and as such will be analyzed from the perspective of Amartya Sen's theory of entitlement. The economist Amartya Sen (1981) pioneered the entitlement approach to food security which views food security as not solely a function of supply and demand but a function of threatened entitlement relations. According to Sen (1981) entitlement relations are part of larger ownership relations where one set of ownerships are connected to another through "certain rules of legitimacy" (p. 1). These rules of legitimacy may be production, trade, and political entitlements. Trade entitlements, for example, are commonly recognized when an individual purchases a banana using currency. That individual's entitlement to currency comes from employment. This individual's income from employment is recognized as a legitimate means with which to acquire bananas. Therefore, the ownership of the banana is established and legitimized. An important advantage to Sen's entitlement approach is the "comprehensive account of a person's ability to command commodities in general and food in particular" (Sen, 1981, p. 156).

Entitlement relations are essential in understanding the relationship between the Mexican people and the tortilla. The primary factors responsible for the 2007 Tortilla Crisis, as well as the current global food crisis, should be analyzed from the perspective of entitlement relations and not consider solely the result of food shortages (Sen, 1981; Hidler, 2007; Henriques and Patel, 2004; Mitchell, 2008; Navarro, 2007). To understand this entitlement crisis it is necessary to break away from the traditional way of thinking in "terms of what exists" and ask instead who is in "command of what" (Sen, 1981, p. 8).

## Agricultural Policy in Mexico

### *The Mexican Revolution*

Mexican peasant farmers or campesinos<sup>3</sup> continue to view land and agriculture as essential to their survival. To Mexican campesinos, land represents their livelihood, food security and survival of their families and communities. The loss of land and the subsequent inability to sustain themselves commonly results in migration to the United States or to Mexican urban centers where work may be more plentiful. “The land is all we have, all we know. Without the land, what will happen to us and our children? We will be begging on the streets of Mexico City or working as peones like our grandfathers did” (Barry, 1995, p. 4). The loss of entitlement to land is not a new problem faced by campesinos, but rather the continuation of national economic and political policies stemming as far back as the colonial period. (Barry, 1995).

The long period of colonization in Mexico created high levels of dissatisfaction within campesino communities which was one aspect leading to the Mexican Revolution in 1910. A central figure in the Revolution was the campesinos’ hero Emiliano Zapata, who played a key role in inspiring and organizing the revolutionary movement. He taught campesinos that they had political rights to their ancestral lands and encouraged them to fight for tierra y libertad (land and liberty). Many campesinos took up arms and became known as Zapatistas. The Zapatistas and other revolutionaries successfully overthrew the Porfirio Diaz dictatorship (1877-1910) in a struggle which represents the first time that campesinos were able to link their agrarian needs to their political needs. The importance of land and liberty for campesino communities has only increased over time as post revolutionary governments falter in fulfilling their promises to the campesinos for the reclamation of ancestral community lands. Successive governments have regarded land distribution

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<sup>3</sup> *Campesino* is used interchangeably with *peasants* to signify Mexican small scale private farm workers.

as a way to pacify the campesinos and ensure political support. (Barry, 1995). Today, campesinos retain very little control or entitlement to the land they so vitally depend on.

### ***Land Reform, Market Reform and Privatization***

The Mexican Constitution of 1917 was the product of a compromise between the victorious factions of the Mexican Revolution. This new constitution incorporated Article 27, to meet the demands of rural agricultural producers for equitable access to land. Article 27 specified the reestablishment of the ejido system, a land tenure system which had been in use since pre-Columbian times. The ejido system would redistribute land held by haciendas or latifundios<sup>4</sup>. These haciendas were large low-cost labor plantations that allowed the state to exercise political control in rural areas. This control typically resulted in the oppression of campesino communities through minimum subsistence levels and lack of political power while simultaneously contributing to the increased wealth of hacienda holders. The Rural Development Institute (2004) reports that prior to the 1910 Revolution, “over half of Mexico’s land was controlled by fewer than 11,000 haciendas, and a mere 834 families owned over 130 million hectares of land” (Brown, 2004). Haciendas were large low-cost labor plantations that allowed the state to exercise political control in rural areas. In its place, the ejido system installed a community-based land sharing system allowing campesinos to farm plots of land expropriated from haciendas. The land reform promised to be an important improvement for campesino communities. It was not until the Lazaro Cardenas government in the 1930s that land reform was implemented and the ejido system widely enacted. Although the ejido system had been an improvement on the hacienda agricultural system, this reform only granted ejidatarios political entitlement to their land--not legal title. Without ownership ejidatarios held limited use rights over an indefinite period of time; the land could be transferred to descendants but

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<sup>4</sup> *Haciendas* or *latifundios* are large agricultural plantations or estates with tenured campesinos.



could not be used as collateral for loans or be sold. This ejido system affected campesinos' participation in the domestic market by limiting their exchange entitlements from land and labor power to only labor power. During Cardenas' government, the ejido agricultural system comprised of approximately 103 million hectares of Mexico, or roughly one half of the country. (Skidmore & Smith, 2004).

Lazaro Cardenas also created the National Company of Popular Subsistence (CONASUPO) to regulate the country's agricultural markets. Its responsibilities included storage, importation, and distribution of staple crops such as grains and corn to prevent private monopoly control and commodity speculation over these essential products. CONASUPO additionally functioned as the primary supplier and manufacturer of nixtamalized (pre-cooked) corn. CONASUPO controlled corn and tortilla prices to guarantee "producers a price for their products and consumers a maximum purchase price" (de Ita, 2007, "The Neoliberal Tortilla Crisis" section, para. 1). Furthermore, corn and tortillas were supported by government subsidies, a very important function in a country with low wages.

Even with the dramatic ejido land reforms and the creation of CONASUPO, many issues between the Mexican government, the rights of the land holders, and agricultural workers continued to emerge throughout the twentieth century. Since the 1940s, the Mexican government has made efforts to intervene in the country's struggling agricultural system by use of reforms such as subsidies and governmental programs. Despite these interventions, no dramatic improvements were experienced; in fact, one study reported that Mexican corn production grew by only .4% between 1977 and 1978, while the total area planted decreased by 1.5 million hectares (Appendini and Liverman, 1994).

In 1982, the Mexican government tried again to increase production of staple crops such as corn. Subsidies to farmers and consumers were increased through a food policy program called the

Sistema Alimentario Mexicano (SAM). However, the political will to sustain SAM's agricultural support programs failed and, following the Mexican debt crisis which struck in August of 1982, the SAM program was abandoned. That same year, corn production fell by one-third (Appendini and Liverman, 1994, p. 6).

The situation continued to worsen through the 1990s. Mexico struggled to balance not only the rights of workers and industry, but the large external debt accrued through the economic downturn of the 1980s. Successive neoliberal governments compounded external debt and, in 1992, Mexico amended Article 27. Although no significant parcels of land had been redistributed to campesinos since the Cardenas administration, the Rural Development Institute (2004) suggested that the Carlos Salinas de Gortari administration amended Article 27 in order to make further land redistribution opportunities impossible (Brown, 2004). Salinas reformed Article 27 thereby opening ejido land for privatization in the hopes that commercial agriculture would replace subsistence agriculture. The neoliberal policies championed by Salinas and institutionalized by NAFTA and international financial institutions such as the World Bank and the IMF, were a driving factor in the elimination of government subsidies and the privatization of CONASUPO. In 1998, as part of NAFTA's process of market deregulation, CONASUPO was dismantled and privatized into an assortment of grain distribution giants such as Maiz Industrializado, Grupo Maseca, and Cargill (among others). The privatization of CONASUPO had disastrous affects on communities as well as corn production and trade. First, corn was liberalized over a period of only 30 months, instead of the negotiated 15 years scheduled by NAFTA. Secondly, by dismantling CONASUPO, the Mexican government encouraged the creation of large scale tortilla flour processing companies which undercut traditional tortilla processes in small-scale local mills and further monopolized the industry. (Appendini, 1992).

Government intervention in the Mexican agricultural sector, Appendini (1992) stresses, has caused further marginalized the subsistent peasant agricultural sector. Peasant agriculture was marginalized because, from the viewpoint of policy makers, the ejido system was not competitive. 85 % of agricultural workers were ejidatarios who held approximately less than 5 hectares of land each (de Ita, 2007). In order to boost production of staple crops, the government increased subsidies through the expansion of a rural public credit system (Banrural<sup>5</sup>), revised support prices through the National Company of Popular Subsistence (or CONASUPO), and invested in rural infrastructure. (Appendini, 1992). These subsidies were meant to encourage investment in rural infrastructure and like other intervention attempts, were largely unsuccessful. (Appendini, 1992).

The Mexican government has made efforts to adopt and integrate more mainstream neoliberal economic policies in an effort to increase competitiveness in the international market. Successive Mexican administrations have continued to promoted agricultural polices meant to transition the largely subsistence farming sector into a more modern agricultural system, similar to those of other industrialized nations (i.e. the United States). Barry (1995) points out that, despite privatizing the agricultural and social sector, these agricultural modernization and industrialization strategies have “failed to move Mexico beyond the rural problems of the third world. Today more than one-fifth of Mexico’s workforce is employed in agriculture and there are more campesinos than existed at the time of the Mexican Revolution.” (p. 2). Subsistence agriculture survives in Mexico and the deprivation of campesinos has only increased since the implementation of NAFTA.

## **Free Trade and Import Dependency**

### ***NAFTA and Free Trade In Agriculture***

The North American Free Trade Agreement (NAFTA) was established to increase international trade between the three member countries (Canada, the United States and Mexico).

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<sup>5</sup> Banrural is a rural development bank which participated in unprofitable agricultural lending before going bankrupting in 2001.

When the agreement came into effect in January 1994, a process of market deregulation was set in motion. Many of the trade barriers between the member nations were removed immediately, while others were given slow liberalization schedules as long as 15 years in order to allow domestic economies time to adjust. By the year 2009, the economies of the three member states would be unified in one large market.

Proponents of NAFTA assumed that Mexico would have a comparative advantage in the production of staple crops because of the country's large agricultural sector and overall lower production costs in comparison to Canada and the US (Fitting, 2007). However, it was considered that Mexico's agricultural sector would experience a period of adjustment before it could effectively compete with the much larger and better capitalized agribusinesses of the US and Canada. Under NAFTA, staple foods markets were to undergo a gradual liberalization (removal of tariffs and quotas) lasting between 3 to 15 years. This gradual schedule was conceived to allow for the slow adjustment of staple food production into the open market. Corn, to be discussed in further detail below, was allotted the longest transition period and one of the smallest stipulated import quotas: 2.5 million tons gradually increased by 3% per year and corn tariffs initially at 215% would be gradually reduced to zero (de Ita, 2007).

This incremental liberalization schedule for corn was not respected by the Mexican government. Although NAFTA granted Mexico 15 years of gradual elimination of trade barriers in corn, the Mexican government ignored import quotas and pushed the commodity into the open market over a drastically shorter period of only 30 months. This compression in the deregulation schedule resulted in the widespread failure of small corn farms throughout Mexico because they could not compete with the heavily subsidized corn imported tariff free from the US. NAFTA is only one of many policies and policy changes which have exacerbated the problems facing the small corn farmers over Mexico's long agricultural history. As Henriques and Patel (2004) suggest, it is

therefore difficult to attribute all negative impacts on Mexico's rural poor to one particular free trade agreement.

### ***NAFTA and the 1994 Zapatista Uprising***

Not all of the problems facing the rural poor in Mexico stem from NAFTA. There are many other factors and conditions. Henriques and Patel (2004) observe that while NAFTA is part of a wider constellation of policies and policy changes that affect the rural poor, this agreement has exacerbated the problems facing campesinos. During the North American Free Trade Agreement (NAFTA) negotiations, corn was one of the main concerns for Mexicans because, based on the theory of comparative advantage, Mexican corn would not compete well with US or Canadian corn. (de Ita, 2007).

Campesinos, Barry (1995) suggests, due to their intense involvement in the 1910 Mexican Revolution, recognize that local problems cannot be changed without first changing the national policies that affect them. When NAFTA took effect on January 1, 1994, the Mexican government was faced with an armed rebellion of campesinos calling themselves Zapatistas, the like of which had not been seen since the Revolution. In the state of Chiapas, in South East Mexico, the Zapatista National Liberation Army (EZLN) made a dramatic entry into Mexican politics and society by letting it be known that:

The plight of the peasantry could not be ignored. 'Don't forget us,' the rebels were saying, 'you depend on us for your political and economic stability. We, the campesinos of Mexico, grow your corn, cut your cane, and pick your coffee. We have not gone away during the past 75 years of post-revolutionary governments, and we will not go away with neoliberalism and free trade.'

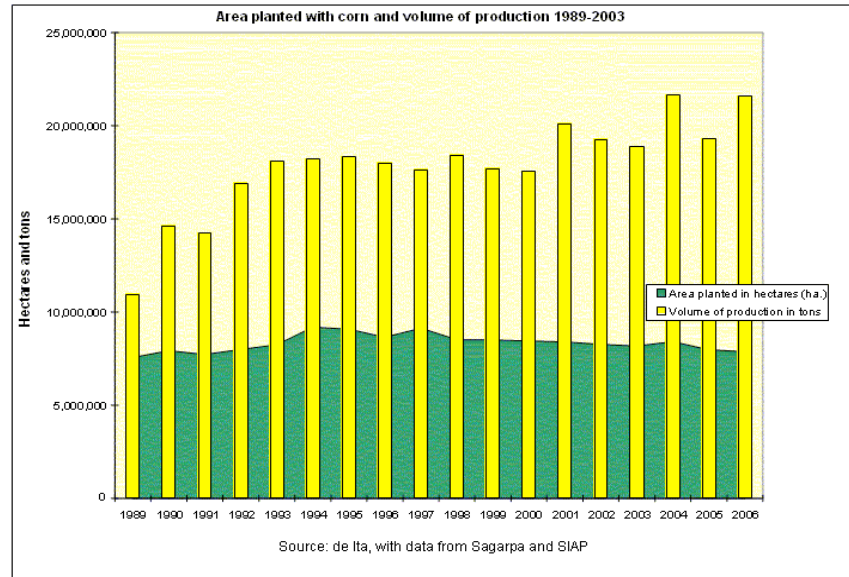
--Barry, "Zapata's Revenge," 1995, p. 3.

The Zapatistas were the loudest and better known of NAFTA's protestors. They spoke on behalf of all campesinos who felt left out of their government's development plans. The Zapatistas revived the cause of Zapata because they were forced into an international market in which they must now compete with US agricultural imports, exports, and subsidies provided to a very productive agricultural sector. (Barry; 1995)

### ***Mexican Corn Imports and Market Dependency***

Today, the United States produces more than 70% of the world corn market (Malkin, 2007). In 2007, the US harvested 280 million tons of mainly industrial grade yellow corn. In the same year, Mexico produced only 22 million tons of white corn. Although Mexico is the fourth largest producer of corn in the world, the country must import approximately 25% of its corn needs from US fields. (Malkin, 2007).

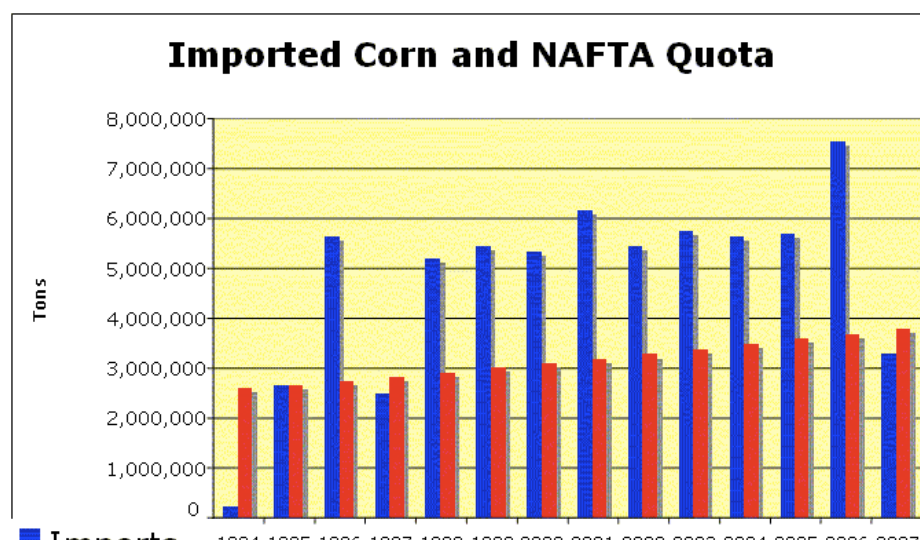
Figure 1:



Source: Sagarpa and SIAP; De Ita, A. (2007). Fourteen Years of NAFTA and the Tortilla Crisis. Americas Program. Interhemispheric Resources Center. "Area planted with corn and volume of production (1989-2003)":

Contrary to pre-NAFTA assumptions corn production within Mexico has not decreased. The total area planted has remained stable, or even declined slightly while output has increased. “This stability in corn production despite [initially] lower prices is inconsistent with the economic laws of supply and demand” (Henriques and Patel, 2004, p. 7). Henriques and Patel (2004) have attributed this stability to a variety of factors such as the strong cultural tradition of the crop, lack of alternative crop options, improved yields, the modernization of production practices, the use of fertilizers, pesticides, and machinery, and the feasibility of expansion and capitalization of land under cultivation. These factors are all influential in the stability of corn production by Mexican farmers despite lower prices in the global market. “Given the lack of alternatives and the multi-functional nature of corn production in campesino life, many have reacted contrary to ‘market expectations’-- they are sowing more corn, not less” (Henriques and Patel, 2004, p. 8).

Mexico’s growing livestock sector has become the main destination for imported corn. Prior to 1996, Mexican farmers did not routinely feed corn to livestock. This practice was due in part to the cultural identity of corn as a traditional human food staple. When the Mexican government lifted this ban on corn destination it came with unforeseen consequences to the domestic corn market. In 2006, a record 21.9 million tons of corn were produced in Mexico. That same year record volumes of corn were imported into Mexico’s domestic market: 7.3 million tons of yellow corn and 254,000 tons of white corn (de Ita, 2007). These imports were above NAFTA’s stipulated quotas, but Mexican corn producers were unable to expand production to meet the new demand, particularly





when faced with the low price of subsidized US corn. The US is able to set the international price of corn low, claims Henriques and Patel (2004), because they have market control as the largest producer and exporter of the crop. Additionally, the US is able to provide cheap corn through direct and indirect subsidies. In 2000, US corn producers received 10.1 billion USD which, in that year, equaled 10 times the Mexican government's entire budget for agriculture (Oxfam International, 2003). The substantial increases in corn imports and the inequality in subsidies provided by the US government, have furthered the control of food transnational corporations over the Mexican corn market. (Henriques and Patel, 2004; Malkin, 2007; de Ita, 2007).

Figure 2:

Source: De Ita, Banxico and NAFTA; De Ita, A. (2007). Fourteen Years of NAFTA and the Tortilla Crisis. Americas Program. Interhemispheric Resource Center.

“Imported Corn and NAFTA Quota”:

The Mexican government has also eliminated agricultural state regulatory agencies like CONASUPO and has accelerated the elimination of trade barriers on corn disregarding the gradual 15 year liberalization schedule established under NAFTA. Ita (2007) states that this action shortened the period of transition and has consequently caused corn imports to “exceed the negotiated quota, and the extra imports [were not] charged the corresponding tariff. As a result, nearly 3.2 million producers, the majority of the small-scale producers in the country, were denied the promised protection.” (de Ita, 2007, “Corn Imports Under NAFTA” section, para. 1). Navarro (2007) claims that between 1994 to 2001 alone, imports in excess of the quota flooded the Mexican market in large amounts, approximately 13 million tons (Navarro, 2007). Many small corn farmers are now unable to compete with the cheaper US imports flooding the market, while larger producers have expanded their share of the domestic market as small farmers are forced out of business, (see figure 3). (De Ita,

2007). Since Mexico began importing corn from the United States, Mexican producers have had to compete directly with US producers selling at international prices which have had an upward tendency since 2006.

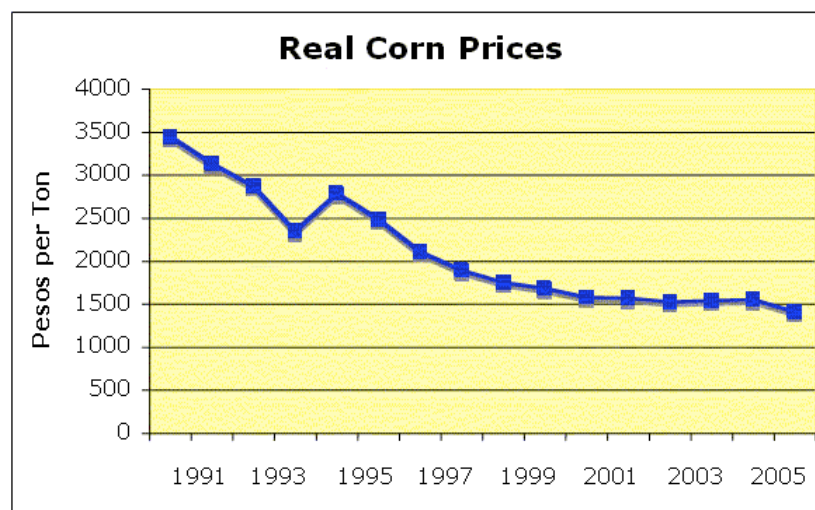
Figure 3:

Source: De Ita and Sagarpa; de Ita, A. (2007). Fourteen Years of NAFTA and the Tortilla Crisis. Americas Program. Interhemispheric Resource Center. "Real Corn Prices" in Mexico:

Real corn prices for imports into the Mexican market. Half of the imports in 2001 were bought (primarily) by three large world cartels operating in Mexico: Cargill-Continental; ADM -Maseca, and Minsa-Arancia-Corn Products International. (de Ita, 2007).

## Global Price and Biofuel Demand

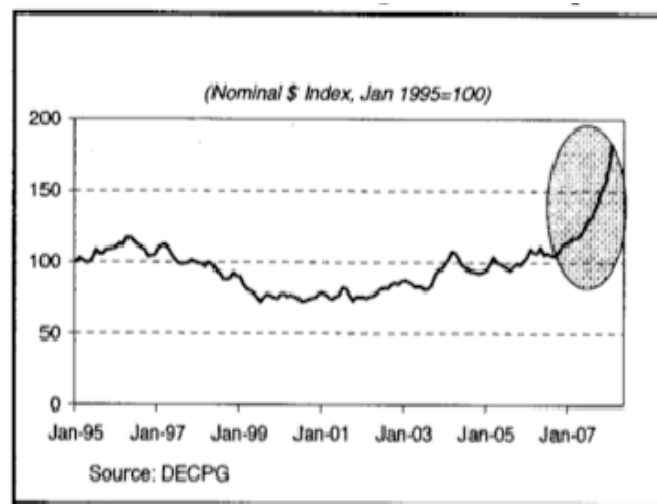
### *Global Price Increases*



The price of food worldwide has skyrocketed. In the last three years the Institute for Food and Development Policy (2008) reported an increase of 83% in food prices worldwide (Peabody, 2008). The World Bank index for food prices documented a 55% increase from April 2007 to April 2008. In the first four months of 2008 prices increased by 20.9%, and in February alone by 9.5% (Mitchell, 2008). These substantial rises in global food prices are part of a larger increase of 140% from January 2002 to February 2008 (Mitchell, 2008). The World Bank reports that current rapid food price increases cannot be compared to any other situation since 1973. In 1973 food prices had more than doubled within the span of a twelve month period. (Mitchell, 2008).

Figure 4:

Source: World Bank DECPG; Mitchell, Donald (Prepared by). A Note on Rising Food Prices.

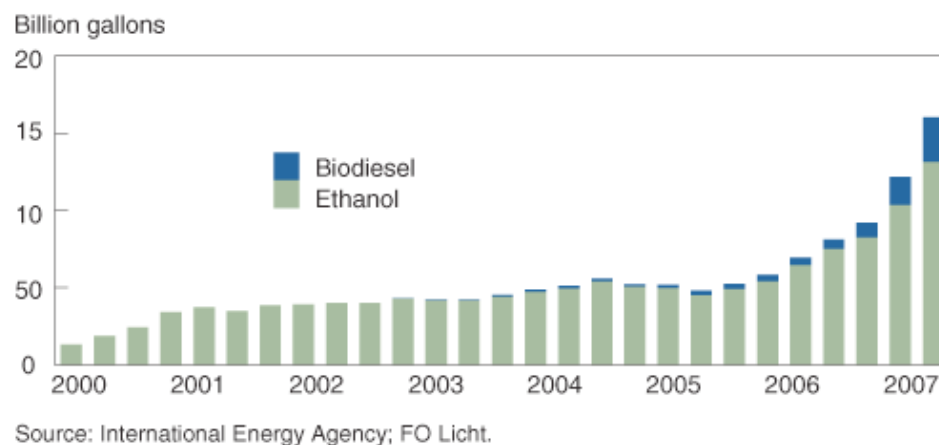


World Bank Report. April 8, 2008

### ***Biofuel Production***

One primary explanation for rising international corn prices can be found in the rising demand for biofuels. Global industrial corn consumption from 2004-2007 increased by 33 million tons and global stock reserves declined by 27 million tons in the same period (Mitchell, 2008). The World Bank reports that this appreciative decline in global stock reserves is the result of the recent acceleration in the production of biofuels. If it was not for this rise in biofuel production, the World

**Global biofuel production tripled between 2000 and 2007**



Bank claims, recent price increases would have been moderate. (Mitchell, 2007).

Biofuel production has distorted the food market by diverting crops away from their use as food towards fuel production. This dynamic is currently causing large land use shifts. Across Mexico, farmers are being encouraged to use farm land for production of industrial yellow corn specifically for the manufacturing of biofuels. This has led to a dramatic decrease in agricultural products available to serve as food for human consumption. Taylor (2007) reports that this replacement of edible white corn crops with industrial yellow corn is reducing the amount of edible corn available on the market. The World Bank (2008) states that today 11% of global corn production goes towards biofuels (Mitchell, 2008). The majority of the increase in global corn output from 2004 to 2007 went towards biofuel production in the US. As a result, global corn

consumption increased by 33 million tons. This increase caused global stocks to decline by 27 million tons and corn prices to more than double. (Taylor, 2007).

Figure 5:

Source: International Energy Agency and FO Licht; Coyle, William. (2007) "The Future of Biofuels: A Global Perspective". *Amber Waves*.

Despite recent evidence from the World Bank suggesting biofuel production as the root cause for the global food crisis, "political leaders seem intent on suppressing and ignoring the strong evidence that biofuels are a major factor in recent food price rises," states Robert Bailey, policy adviser at Oxfam International (Chakraborty, 2008, para. 8). Oxfam International believes that politicians are concentrating on keeping industry lobbyists happy while people in developing countries are unable to afford enough to eat (Chakraborty, 2008). President Jimmy Carter warned Americans in 1977 that "balancing energy demands with available domestic resources would be an effort the 'moral equivalent of war'" (Runge, 2007, "The Ethanol Bubble" section, para. 1). The World Bank maintains that this situation is currently pushing 100 million people below the poverty line worldwide (Mitchell, 2008). The response from US President George W. Bush has been to blame rising food prices on higher demand from India and China (Chakraborty, 2008). The World Bank counters that rapid population growth in India and China is not the responsible factor in "global grain consumption and was not a major factor responsible for the large price increases." (Mitchell, p. 3). The World Bank restates that the biggest impact on global price increases is the result of US and European Union's demand for alternative means to end foreign oil dependency. (Mitchell, 2008).

Biofuel production has distorted the global food market and is a major contributor to food price increases within Mexico. Roig-Franzia (2007) suggests that there is a universal consensus by Mexican communities that the demand for biofuels from industrial nations is the root cause of tortilla and corn price increases within Mexico. “Since many of the poorest people in Mexico engage in corn production, it serves as a barometer for the condition of [one of] the most marginalized groups in Mexican society” (Henriques and Patel, 2004, p. 1).

### The Tortilla Crisis of 2007

In tandem with global food prices, corn prices have increased rapidly in the international market. The international price of corn went from 120.8 USD per ton to 177.16 USD per ton from September 2006 to February 2007 (de Ita, 2007).

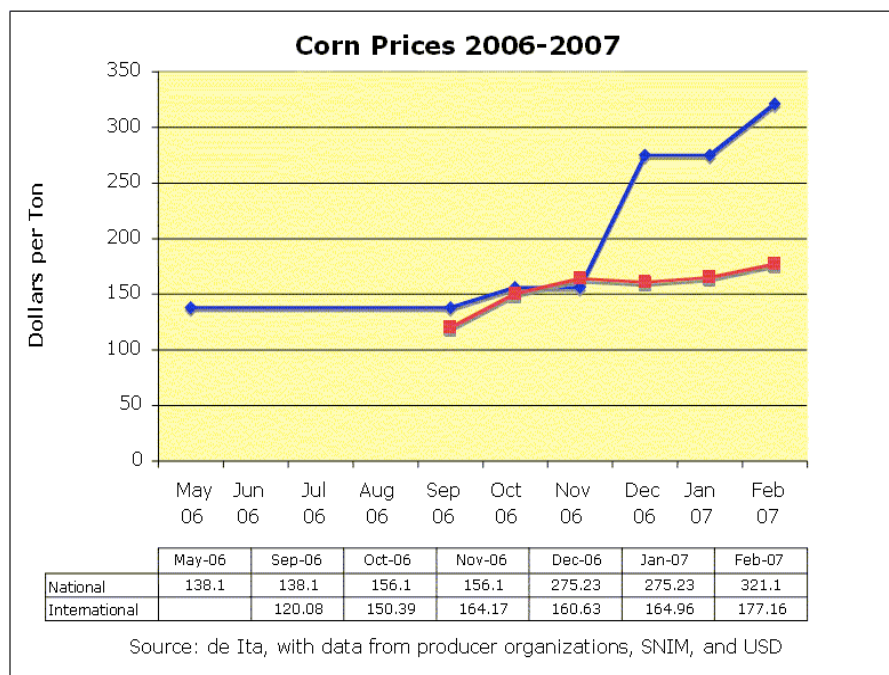


Figure 6:

Red: national prices, Blue: international prices.

Source: De Ita, SNIM and USD; De Ita, A. Fourteen Years of NAFTA and the Tortilla Crisis. Americas Program. 2007.

These dramatic price increases ranged between 42% and 67% and were part of a larger increase of 738% since 1994. (de Ita, 2007). Tortilla price hikes wreaked havoc on the purchasing power of Mexican wages when the price of corn jumped from 138.1 USD per ton in April 2006 to 321.1 USD per ton in February 2007. Today, when the Mexican minimum wage is approximately 4.60 USD per day and the average Mexican eats an estimated 10 tortillas a day, single earning families are forced to spend as much as one third of their income on tortillas (Malkin, 2007). These price increases are the result of three specific actions: the privatization and modernization of Mexico's agricultural sector, the implementation of neoliberal policies and trade liberalizations, and the global demand for biofuels. It is the manifestation of these forces which caused the price of the tortilla in early 2007 to suddenly skyrocket in a situation known as the Tortilla Crisis (Navarro, 2007; de Ita, 2007; Malkin, 2007; Henriques and Patel, 2004).

The Tortilla Crisis was first and foremost a crisis of entitlement relations. As such, the corn price rises in Mexico were not the result of lower production. In fact, the 2006-07 harvest ended in a record outflow of 21.9 million tons (de Ita, 2007). In this same time period approximately 7.3 million tons of edible yellow corn and 254,000 tons of industrial white corn were imported, a record inflow into the market. (de Ita, 2007).

While the Tortilla Crisis is the result of numerous processes including the reform of the Mexican agriculture sector, international demand for biofuels and unregulated market prices, the crisis clearly illustrates the vulnerability of Mexican communities access to food.

### Civic Protests and the Impact of the Crisis on the Population

It is in the opinion of many Mexicans that the tortilla crisis is about more than just tortillas. Personal accounts recorded by Malkin (2007) express dissatisfaction with government policy: “When they [the government] get involved in something as elemental as tortillas, well that's just irresponsible,” and, “the government always takes advantage of the poor. First it was tortillas, but we're not stupid; if tortillas go up, everything else does too” (Malkin, 2007, p. 6). There was a general consensus within Mexican communities that their diminished access to corn tortillas was only one aspect of a larger entitlement crisis occurring. So the question remains: who is in charge of what?

Growing frustration over this issue has spurred much public protest throughout the nation. One such instance erupted in Mexico City on January 31, 2007. Peabody (2008) reports that 70,000 campesinos, consumers, trade unionists and corn security activists marched to protest against the national government's continued application of a “neoliberal model that, after a quarter of a century, has shown inefficiency and inequality” towards the needs of the small-scale tortilla producer and consumer (Malkin, 2007, p. 6). Protesters “took to the streets, some with banners reading ‘no queremos PAN, queremos tortillas’ in a play on the word ‘pan’ that rejected both the white bread that some households had been forced to switch to as well as President Calderon's PAN political party” (Peabody, 2008, p. 1). In addition, Via Campesina, an international development organization in 43 countries representing thousands of Mayan farmers, championed the cause of the protestors. Via Campesina was the largest contingent of outraged community members in the January 31, 2007 marches. (Carlsen, 2004).

### Market Controls



Public protest to the tortilla crisis resulted in investigations of transnational companies, and their role in the importation of corn, its distribution and accusations of speculative stock hoarding. Market reforms and changes in trade structure were major contributors to the tortilla price hike, but so were the actions of large-scale corn producers and tortilla processing companies. (de Ita, 2007). As previously indicated by Sen (1981), it is necessary to get out of the traditional way of thinking exclusively about market supply and look instead into who is in control of what. Who determines how food is distributed within Mexico?

In Mexico tortillas are produced by two different methods; the traditional nixtamal process and the cornmeal process. Tortillas produced with the nixtamal process, are generally produced in locally owned small-scale mills and factories. By 2003, nixtamal tortilla production made up 51% of the market and has continued to have significant cultural and social importance. Tortillas made from cornmeal provided the remaining 49% of the Mexican market. (de Ita, 2007). With the privatization of CONASUPO, the Mexican government transformed centuries of tortilla production and shifted the market from local producers towards larger processing monopolies. In 2003, 49% of tortilla production was controlled by three major corn distribution companies within Mexico: Cargill, Maiz Industrializado S.A., and Grupo Maseca S.A. (otherwise known as Grupo Gruma). Navarro (2007) suggests that the Maseca tortilla brand is possibly the world's largest tortilla maker, controlling as much as 70% of the Mexican market. While Cargill, Navarro (2007) maintains, is the second largest private company in the world and has 140 years of experience buying, processing and distributing staple crops. According to Navarro (2007), companies like Maseca, Cargill and Maiz Industrializado are the primary contributors to the increase in tortilla prices. In the Spring and Summer of 2007, these three companies purchased and stored 600,000 tons of corn in Sinaloa Mexico, a state known for its high levels of corn production. These industry giants purchased the Sinaloa corn for 1,650 pesos (160 USD) a ton. Just a few months later they turned around and sold this same corn at a rate

of 3,500 pesos (320 USD) a ton (Navarro, 2007). With the recent decision by the Mexican government to lift import quotas to lower the price, Cargill is now positioned to greatly benefit as the primary grain importer in Mexico. According to Lorenzo Mejia, president of the National Industrial Union of Mills and Tortilla Factories, "The mills cannot import and will have to seek the services of Cargill'." (Navarro, 2007, p. 3).

Large monopolies like Cargil, Maiz Industrializado, and Maseca gained the market control they enjoy now as a result of neoliberal policies and market reforms implemented with NAFTA and instigated during the administration of Salinas de Gortari (1988-1994). The role of these companies in the 2007 Mexican Tortilla Crisis cannot be denied. However, it is not the dominating factor. The major contributor to the tortilla price increases was the change in market structure due to commodity liberalization and the demand of biofuels by nations such as the United States.

#### Calderón Response

The tortilla crisis came at a particularly unfortunate time for President Felipe Calderón as he had only been in office for three weeks prior to the January 31, 2007 tortilla protests. Previously Calderón had been a campaigner for free trade and neoliberal policies, but, in response to the protests, he abandoned these principles. "“We will not tolerate speculators and monopolists,” Calderón said. ‘We are going to apply the law firmly and punish anyone who tries to take advantage of the needs of people.’” (McKinley, 2007, p. 1). To support his new political stance, Calderón sought agreements with several large companies to cap or freeze tortilla and corn flour prices. Large companies like Cargill and Grupo Maseca (the most progressive and open to cooperation with Present Calderón) agreed to stabilize tortilla flour prices at 21 cents a pound and sell tortillas at 35

cents a pound (which is less than half of the market rate at the time). Wal-Mart<sup>6</sup> and other large retailers have promised to freeze, or keep, their tortilla price at 27 cents a pound. (McKinley, 2007). Small-scale private and government owned tortilla businesses also committed to stabilize their prices at 14 cents a pound (which is less than a quarter of the market rate at that time) (McKinley, 2007).

President Calderón's attempts at market stabilization were largely unsuccessful. Cargill officials apparently referred to the promises made to Calderón as "a gentleman's agreement" (Roig-Franzia, 2007). Cargill was, however, one of the few tortilla producers who signed the pact. Irrespective of promises made, none of these market actors honored the price caps and Calderón was forced to seek alternative solutions. In his next attempt to stabilize market prices Calderón increased corn imports from the United States. Calderón imported more than 650,000 tons of corn in an attempt to lower costs. Montagne (2007) reports that it was the intention of the Mexican government to import cheap corn from anywhere in order to alleviate the Tortilla Crisis.

## Conclusion

The Mexican Tortilla Crisis is fundamentally a political entitlement crisis involving control of the corn industry rather than the simple outcome supply and demand (Sen, 1981; Hidler, 2007; Henriques and Patel, 2004; Mitchell, 2008; Navarro, 2007). The crisis is the result of three specific actions: the privatization and modernization of Mexico's agricultural sector, the implementation of neoliberal policies and trade liberalization, and the global demand for biofuels. The manifestation of these forces have eroded Mexican's entitlement to corn and resulted in the Tortilla Crisis.

The tortilla crisis is the result of a combination of domestic and international factors that threaten entitlement relations in Mexico. The economist Amartya Sen has identified entitlement relations as ownership situations ranging from simple trade entitlements to complex political

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<sup>6</sup> Wal-Mart is Mexico's largest private employer.

entitlement situations. Entitlement relations are key to understanding the complexities of the Mexican people's access to corn, their staple food.

The Mexican government gave campesinos political entitlement to land through the implementation of Article 27 of the 1917 Constitution. However ejidatarios did not have legal ownership to that land and were particularly susceptible to the rapid privatization and market reforms implemented during the late 1980s and early 1990s. The only legitimate entitlement over food campesinos maintained was ownership of the commodities produced on ejido farm land. Unfortunately, even this entitlement became threatened as Mexico increased its participation in the international marketplace through the implementation of free trade agreements such as NAFTA. Under NAFTA, Mexico increased corn imports and campesinos could not compete with highly subsidized US corn. Rapid increases in corn prices, exacerbated by the worldwide demand for biofuels, increasingly threaten campesinos' entitlement to corn. Global demand for corn has soared, the Mexican government has dramatically increased corn imports, and the international price for corn has skyrocketed to record numbers making it increasingly difficult for the Mexican population to afford to eat. The resulting Tortilla Crisis in 2007 was therefore the result of years of threatened entitlement relations between Mexicans and their cultural and dietary staple. It is the combination of market reforms, neoliberal policies, trade liberalization and the demand for biofuels which caused the tortilla crisis. In conclusion, these forces led to a severe threat to Mexico's food security. Any of these on its own probably would not have led to a crisis.

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